

IN THE CLAIMS:

Please add new claim 36, as follows:

Claims 1-11 (Canceled)

12. (Previously Presented) A method for controlling transmission power in a radio system having a transmitting end and a receiving end, the method comprising:

transmitting a digital signal from the transmitting end to the receiving end;

receiving said digital signal at the receiving end;

setting an initial value of the transmission power so that no pseudo errors are detected, a pseudo error defining an instant when a right bit or symbol decision was made, but a margin for the right bit or symbol decision was smaller than a limit value so that an actual error did not occur;

monitoring pseudo error occurrence in the received signal at the receiving end;

decreasing the transmission power gradually from the initial value at the transmission end when the pseudo error occurrence in an error-free reception does not fulfill a predetermined condition; and

increasing the transmission power by a predetermined amount when the pseudo error occurrence in the error-free reception fulfills the predetermined condition.

13. (Previously Presented) A method as claimed in claim 12, wherein the predetermined condition comprises detecting the pseudo error.

14. (Previously Presented) A method as claimed in claim 12, wherein the predetermined condition comprises detecting a second pseudo error within a predetermined time interval after the last pseudo error.

15. (Previously Presented) A method as claimed in claim 12, wherein the predetermined condition comprises detecting a predetermined number of pseudo errors within a predetermined time interval.

16. (Previously Presented) A method as claimed in claim 12, wherein the transmission power is increased immediately when the pseudo error is detected.

17. (Previously Presented) A method as claimed in claim 12, wherein the transmission power is decreased in predetermined steps for a predetermined time period at each step.

18. (Previously Presented) A method as claimed in claim 17, wherein a predetermined step is 1 dB.

19. (Previously Presented) A method as claimed in claim 12, wherein the method further comprises

(a) adjusting the transmission power after the set-up of the radio system to the initial value high enough so that no pseudo errors are detected at the receiving end;

(b) decreasing the transmission power until a first pseudo error is detected;

(c) increasing the transmission power in response to the detected pseudo error; and

(d) jumping to phase (b) if no pseudo errors are detected during a predetermined time period after the transmission power has been increased in phase (c).

20. (Previously Presented) A method as claimed in claim 12, wherein the predetermined amount for increasing the transmission power is 1 or 2 dB.

21. (Previously Presented) A method as claimed in claim 12, wherein the method further comprises

using forward error correction (FEC) in the transmitted signal;

decoding the signal at the receiving end by means of a FEC decoder; and

interpreting the corrections made by the FEC decoder as pseudo errors.

22. (Previously Presented) A method as claimed in claim 12, wherein the method further comprises using at the receiving end a demodulator provided with a first set of thresholds for making a decision on a received symbol and a second set of thresholds for making a decision on whether the pseudo error has occurred.

23. (Previously Presented) A method as claimed in claim 12, wherein the method further comprises

monitoring the rate of actual errors at the receiving end; and

increasing the transmission power temporarily to the maximum transmission power when a predetermined error rate threshold is exceeded.

24. (Previously Presented) A radio system including

at a receiving end, first means adapted to monitor pseudo error occurrence in a received signal and to produce a control signal indicating when pseudo errors are detected and when the pseudo error occurrence in an error-free reception is below a predetermined condition, a pseudo error defining an instant when a right bit or symbol decision was made, but a margin for the right bit or symbol decision was smaller than a limit value so that an actual error did not occur, and

at a transmitting end, second means for adjusting transmission power responsive to said control signal by decreasing the transmission power when the pseudo error occurrence in the error-free reception does not fulfill the predetermined condition and by increasing the transmission power when the pseudo error occurrence fulfills the predetermined condition.

25. (Previously Presented) A radio system as claimed in claim 24, wherein said first means include a FEC decoder for decoding a FEC coded signal and for detecting pseudo errors.

26. (Previously Presented) A radio system as claimed in claim 24, wherein said first means include a demodulator provided with a first set of thresholds for making a decision on a received symbol and a second set of thresholds for making a decision on whether the pseudo error has occurred.

27. (Previously Presented) A radio receiver configured to monitor pseudo error occurrence in a received signal and to produce a control signal indicating when pseudo errors are detected and when the pseudo error occurrence in an error-free reception is below a predetermined condition, a pseudo error defining an instant when a right bit or symbol decision was made, but a margin for the right bit or symbol decision was smaller than a limit value so that an actual error did not occur.

28. (Previously Presented) A radio transmitter configured to adjust transmission power responsive to a control signal, the control signal indicating when pseudo errors are detected in a receiver and when pseudo error occurrence in the receiver is below a predetermined condition for an error-free reception, a pseudo error defining an instant when a right bit or symbol decision was made, but a margin for the right bit or symbol

decision was smaller than a limit value so that an actual error did not occur, by decreasing the transmission power when the pseudo error occurrence does not fulfill the predetermined condition and by increasing the transmission power when the pseudo error occurrence fulfills the predetermined condition.

29. (Previously Presented) A control unit for a transmitting end of a radio link system, the control unit configured to:

set an initial value of transmission power so that no pseudo errors are detected in a received signal in a receiving end of the radio link system, a pseudo error defining an instant when a right bit or symbol decision was made, but a margin for the right bit or symbol decision was smaller than a limit value so that an actual error did not occur; and

adjust the transmission power responsive to a power control message received in the control unit by decreasing the transmission power when pseudo error occurrence in an error-free reception does not fulfill a predetermined condition and by increasing the transmission power when the pseudo error occurrence fulfills the predetermined condition, wherein the power control message is based on information on pseudo errors detected in the received signal in the receiving end and provides indication whether pseudo error occurrence in an error-free reception fulfills the predetermined condition.

30. (Previously Presented) A control unit for a receiving end of a radio link system, the control unit configured to produce and send a power control message based

on information on pseudo errors detected in a received signal and indicating whether pseudo error occurrence in an error-free reception fulfills a predetermined condition, a pseudo error defining an instant when a right bit or symbol decision was made, but a margin for the right bit or symbol decision was smaller than a limit value so that an actual error did not occur.

31. (Previously Presented) A computer program, embodied on a computer readable medium, said computer program controlling a computing system to perform the steps of:

setting an initial value of transmission power so that no pseudo errors are detected in a received signal in a receiving end of the radio link system, a pseudo error defining an instant when a right bit or symbol decision was made, but a margin for the right bit or symbol decision was smaller than a limit value so that an actual error did not occur; and

adjusting the transmission power responsive to a power control message by decreasing the transmission power when pseudo error occurrence in an error-free reception does not fulfill a predetermined condition and by increasing the transmission power when the pseudo error occurrence fulfills the predetermined condition, wherein the power control message is based on information on pseudo errors detected in the received signal in the receiving end and provides indication whether pseudo error occurrence in an error-free reception fulfills the predetermined condition.

32. (Previously Presented) A computer program, embodied on a computer readable medium, said computer program controlling a computing system to perform the step of producing a power control message based on information on pseudo errors detected in a received signal and indicating whether pseudo error occurrence in an error-free reception fulfills a predetermined condition, a pseudo error defining an instant when a right bit or symbol decision was made, but a margin for the right bit or symbol decision was smaller than a limit value so that an actual error did not occur.

33. (Previously Presented) A method for controlling transmission power in a radio link system, the method comprising:

sending a digital signal;

setting an initial value of transmission power so that no pseudo errors are detected in a received signal in a receiving end of the radio link system, a pseudo error defining an instant when a right bit or symbol decision was made, but a margin for the right bit or symbol decision was smaller than a limit value so that an actual error did not occur;

receiving a power control message, which is based on information on pseudo errors detected in the received signal in the receiving end and indicating whether pseudo error occurrence in an error-free reception is below a predetermined condition;

decreasing the transmission power from the initial value when the pseudo error occurrence in the error-free reception does not fulfill the predetermined condition; and

increasing the transmission power when the pseudo error occurrence fulfills the predetermined condition.

34. (Previously Presented) A method for controlling transmission power in a radio link system, the method comprising:

receiving a digital signal;

monitoring pseudo error occurrence in the received signal, a pseudo error defining an instant when a right bit or symbol decision was made, but a margin for the right bit or symbol decision was smaller than a limit value so that an actual error did not occur;

producing a power control message based on information on pseudo errors detected in the received signal and indicating whether pseudo error occurrence in an error-free reception fulfills a predetermined condition; and

sending the power control message to a transmitting end of the radio link system.

35. (Previously Presented) A forward error correction decoder for a radio link system, the forward error correction decoder comprising:

a first output for outputting a corrected bit stream, wherein the corrected bit stream is obtained by removing redundancy from a received bit stream; and

a second output for outputting an error signal indicating corrections made by the forward error correction decoder to obtain the corrected bit stream, wherein the error signal provides information for producing a control signal, the control signal indicating

whether pseudo errors are detected in a received signal and whether the pseudo error occurrence in an error-free reception fulfills a predetermined condition, a pseudo error defining an instant when a right bit or symbol decision was made, but a margin for the right bit or symbol decision was smaller than a limit value so that an actual error did not occur.

36. (New) A method for controlling transmission power in a radio system having a transmitting end and a receiving end, the method comprising:

transmitting a digital signal from the transmitting end to the receiving end;

receiving said digital signal at the receiving end;

setting an initial value of the transmission power so that no pseudo errors are detected, a pseudo error defining an instant when a right bit or symbol decision was made, but a margin for the right bit or symbol decision was smaller than a limit value so that an actual error did not occur;

monitoring pseudo error occurrence in the received signal at the receiving end;

decreasing the transmission power gradually from the initial value at the transmission end when the pseudo error occurrence in an error-free reception does not fulfill a predetermined condition,

increasing the transmission power by a predetermined amount when the pseudo error occurrence in the error-free reception fulfills the predetermined condition,

monitoring occurrence of actual errors in the received signal at the receiving end;
and

overriding transmission power control based on monitoring of occurrence of
pseudo errors by increasing transmission power if actual errors are observed.